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AGO ltr 29 Apr 1980

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DEPARTMENT OF THE ARMY
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IN REPLY REFER TO

AGAM-P (M) (15 May 68) FOR OT RD 681252

21 May 1968

AD833830

SUBJECT: Operational Report - Lessons Learned, Headquarters, 459th
Signal Battalion, Period Ending 31 January 1968 (U)

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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DEPARTMENT OF THE ARMY
HEADQUARTERS 459TH SIGNAL BATTALION
APO 96308

SCCVNG-NT

10 March 1968

SUBJECT: Operational Report for the Quarterly Period Ending 31 January
1968 from Headquarters, 459th Signal Battalion (CA) (RCS CSFOR-65)

TO: Commanding General
Headquarters, United States Army Vietnam
APO 96375
ATTN: AVHGC-DST

SECTION I

Significant Organization or Unit Activities

1. GENERAL:

a. The 459th Signal Battalion's area of communications responsibility has not changed since the last reporting period.

b. To consolidate telephone communications support of the Nha Trang Area under the single manager concept, coordination, and staffing by the appropriate staff units have been taking place with the 1879th Communications Squadron in preparation for the eventual cutover of the Goldfinch Dial Exchange (AN/TTC-28) to the Air Force Dial Exchange being constructed at the Nha Trang Air Base.

c. In preparation for the Goldfinch Dial Exchange cutover, the 459th Signal Battalion (CA) graded the Goldfinch telephone service in the following manner:

(1) Class A1 Service - Access to the in-country and overseas Long Distance Trunks.

(2) Class A2 Service - Access to Long Distance in-country trunks only.

(3) Class C Service - Access to local dial trunks within the Nha Trang Area. This service has long distance capability only in matters of extreme emergency.

d. The grading of the exchange limited the access to the Nha Trang Long Distance Board thereby improving the quality of this service. The 30-70 percent relationship between Class A and Class C, recommended by the 1st Signal Brigade, was adhered to where possible. The number of major headquarters in the Nha Trang Area caused an installation ratio of 45-55 percent respectively.

For or 681252

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e. In order to improve the quality of the long distance service, the 459th Signal Battalion added a nine position switchboard (AN/MTA-7) in tandem with the existing AN/MTA-7. This provided 18 operator positions and reduced the operator pickup time at the long distance switchboard.

2. ACTIVITIES:

a. During the reporting period the 459th Signal Battalion (CA) continued to provide area and base camp communications support to combat maneuver units, combat support units, and CORDS agencies deployed in the battalion's area of communications responsibility.

b. The battalion's chaplain civic action program continued through the reporting period. 138,00 Piasters were returned to Montagnard tribes located in the vicinity of Da Lat from the sale of Montagnard artifacts.

c. The battalion contributed approximately 1750 gifts for Vietnamese children and sponsored seven parties during the Christmas holidays.

d. The Battalion actively pursued the "Buddy Program" and continued to supply salvaged lumber, construction hardware, and technical assistance in field communications to the 651st Signal Company, Army of the Republic of Vietnam.

3. PERSONNEL AND ADMINISTRATION: The Battalion personnel section initiated a program in which personnel specialist pay periodic visits to the battalion's isolated sites in order to discuss and solve personnel problems.

4. SECURITY:

a. During the reporting period, six TOP SECRET and 88 SECRET clearances were validated, and 16 CONFIDENTIAL clearances were granted. Cryptographic access was authorized for 50 personnel.

b. A continuous review of the physical security plans during the reporting period brought about changes in order to conform with the current situation. A comprehensive program directed at improving and re-locating the defensive positions improved the overall physical security posture of the battalion. Emphasis was placed on the construction of reinforced bunkers due to the increasing number of enemy mortar and rocket attacks directed at the battalion's sites and surrounding areas.

c. Quarterly physical security inspections by the battalion physical security officer and monthly inspections by the unit physical security officer have been continued through the reporting period and deficiencies found were corrected immediately.

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d. Bulldozer support from the 864th Engineer Battalion enabled the 228th Signal Company (RRVHF) to clear approximately 3000 square meters of foliage around their perimeter. This improved the fields of fire to counter the increased enemy activity directed against the unit.

5. SAFETY:

a. Command emphasis as well as classes at platoon level continues to be placed on all aspects of safety. The following recordable accidents and personnel injuries occurred during the quarter:

Personnel Injuries 10 Vehicle Accidents 13

b. Accident exposure for the quarter:

<u>MONTH</u>	<u>MAN DAYS</u>	<u>MILEAGE</u>
NOV	34,193	257,076
DEC	32,800	144,226
JAN	36,460	130,838
TOTAL FOR QUARTER	103,453	532,140

6. TRAINING:

a. The majority of training within the Battalion continues to be on-the-job instruction conducted at unit level. The OJT program has been tailored to meet the battalion's need in critical MOS fields.

b. A junior officer's training program, where classes are given by the participating officers, has been established. Classes are given 16 hours a month on military subjects based on the Vietnam environment and occupational specialties.

c. Special training programs on special items of equipment have been initiated. This program augments the Army functional training program where the tactical situation does not allow for timely requisition of functionally trained personnel.

7. OPERATIONS:

a. The field adjacent to the 261st Signal Company has been established as a helipad. Plans were made by the Air Force to house a Maintenance Battalion, therefore, it was necessary to relocate the helipad. A new 40 by 60 feet helipad was constructed of PSP and helipad membrane at a site closer to the Phu Hiep Signal Site. The new helipad can easily be seen from any height, and will aid pilots in locating the unit's canteen area.

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b. To improve motor vehicle maintenance management, Company B, 459th Signal Battalion at Ninh Hoa, a new motor maintenance building was constructed in the southwest corner of the motor pool.

c. The 228th Signal Company on Hon Tre Island installed a new power panel in the units power distribution system. This change was made to balance the three phases of the installed 200KW generators. A line, size 00 wire, was run from the main distribution panel in the generator building to the company motor pool area. This power panel is constructed of four switch boxes which control the ARVN signal site. A section of the perimeter lights, a section of the administration area and the motor pool. Another power panel controls the 228th Signal Company's communications area. These three panels plus switch boxes on the main power panel facilitate balancing of the phases. It is presently balanced at 460 amperes per phase. The system of power panels in separate areas reduces the possibility of power failures because of overloaded lines. It also enables proper balancing of the generator phase, thus eliminating possible damage to the generators.

d. Due to the construction of the IWCS building at Ninh Hoa, the 518th Signal Company relocated system 77UM90 to a new Operations Jamesway. The company tower maintenance team completed erection of the tower and mounting of two each antennas AS-554/U with transmission lines. The relocation improved the physical facilities, as well as power distribution of the station while allowing the smooth transition of IWCS facilities into operation.

e. On 10 November 1967, Typhoon Freida moved into the Nha Trang-Tuy Hoa areas. The 261st Signal Company VHF/Microwave site at Vung Ro Mountain, near the center of the storm, received the highest winds with estimates of 150 MPH in gusts. A 72 foot, 12 section, AB-216/U communications tower buckled and broke under the force of the wind, destroying both VHF and Microwave antennas.

Meanwhile, the Microwave station at Ninh Hoa reported two tower anchors were pulling out of the ground. The two anchor points were quickly transferred to 2½ ton trucks moved into the area. Hon Tre further reported an anchor pulling out of the ground. Again a 2½ ton truck was used as an anchor point. The Microwave tower at Nha Trang was reported to be swaying dangerously.

A convoy was assembled in Nha Trang carrying tower parts to Ninh Hoa and Vung Ro Mountain. Reconstruction work was completed and contact made with Vung Ro Mountain. A total outage time of 19 hours, 12 minutes was sustained on System 77UM90. Although other systems experienced a higher than usual noise ratio during the storm, all were carrying traffic.

f. To improve efficiency of the Electronics Maintenance operation by providing a work area that is orderly, and protected from dust, and moisture, the 228th Signal Company on Hon Tre Island constructed a new Electronic Maintenance shop. The structure is divided into three areas; The repair section contains one AN/TRC-24 and one AN/TCC-50 with two work benches to facilitate necessary repairs and testing; the storage section consists of shelves, divided into equipment categories, further divided into equipment status; the third section is utilized for Electronic Maintenance administration.

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g. Four hundred feet of galvanized chain-link fence was requisitioned and installed on concrete, stabilized 4 by 4 timbers around the Phu Hiep Communications Center. This chain-link fence will provide a permanent all weather inclosure requiring less maintenance and enhancing the beauty of the site.

h. To provide facilities for terminating five microwave systems, now split between two sites at Camp McDermott and the USASTRATCOM complex at Long Van Air Base, the 518th Signal Company completed construction on 18 November 1967 of a nineteen section Jamesway equipment shelter at Camp McDermott for the installation of the new Nha Trang Microwave Terminal,

i. The completion of the multi-pair cable project at Phu Hiep to Engineer units, on 18 November 1967, eliminated approximately one mile of spiral-four cable and two miles of WD-1 field wire between two US Military sites. In addition, this project will up-grade voice and teletype circuits to units in cited areas.

j. During a tower inspection on the AB-216/U at Pr'Line Mountain, two of the anchor points on the tower were of a field expedient nature utilizing tree stumps as anchors. On 23 November 1967, the 518th Signal Company Tower Team installed a twenty foot pole, and new cement anchor points, and the guying angle of one of the anchors altered to increase tower stability. This construction will increase the margin of safety should accident or weather conditions threaten the structure.

k. A Korean AM Broadcasting station has been constructed on Hon Tre Island, to expand the listening areas of Korean units in central Vietnam. The Korean broadcasting studio is located at ROK Field Forces Headquarters in Nha Trang. The broadcast is transmitted to Hon Tre Island over BHH25, Channel 9. The circuit is terminated at the Korean site, located below the 228th Signal site, by spiral-four cable. A radio AN/GRC-26, utilizing a 100 foot transmission tower, is used for broadcasting. The broadcast is also transmitted to the Hon Tre Signal site over a Korean VHF system, utilizing radio, AN/TRC-1. This circuit is terminated at the Korean broadcast site by utilizing the second pair of spiral-four cable. This arrangement provides a choice of circuits, using the best quality circuit for broadcasting.

l. On 28 November 1967, periods of severe fade were noted between Hon Tre Island and Cam Ranh Bay. These fade periods effected System BBMO1. A change in antenna height and position were tried with limited success. On 29 November 1967, space diversity was installed on this system by the addition of one each antenna at Cam Ranh Bay Hill 184, and at Hon Tre Island. This construction enabled high-low diversity operation at both stations, and this change upgraded the reliability of BBMO1 system.

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m. The 228th Signal Company on Hon Tre Island, has installed an FM Radio Set AN/VRC-46, mounted in the unit operations van, AN/MS-31, to provide emergency communications with adjacent units on the island and to facilitate control of flare and gunships when required. The radio is operated 24 hours per day in the Hon Tre Island net and also allows contact with the Nha Trang Defense Command Net and medical evacuation helicopters.

n. Due to continuous construction projects by Artillery units in the Phu Hiep area, necessitating continuous rehabilitation of existing Spiral-Four cables, the 261st Signal Company at Phu Hiep extended a 25 pair cable to the artillery area. The completion of the cable project on 13 December 1967 enabled the 261st Signal Company to provide the artillery units with a means of stable, and quality communications. This project also eliminated approximately 8000 feet of Spiral-Four cable.

o. The wire section of the 228th Signal Company on Hon Tre Island installed five pair cables from the 100 pair terminal boxes to the Artillery and Air Force telephone subscribers. The purpose is to eliminate the WD-1 wire which was strung throughout the subscriber areas. A 100 pair terminal box is located in the Artillery and Air Force cantonment area. "Ready Access" terminal boxes are located in area sectors where a small number of phones are concentrated. Five pair cable, which is hung on poles, is terminated in the 100 pair "Ready Access" terminal boxes. Drop wire is used to establish communications between each sector terminal box, and the telephone subscribers. The same procedure is used for local island communications in the Artillery and Air Force operational area.

p. By utilizing heavy equipment, bridge timber, PSP, and sand bags, Company B, 459th Signal Battalion at Ninh Hoa, constructed a bunker of sufficient size to house a reactionary force of 25 personnel, during enemy attacks. This defensive bunker will provide the Unit Commander with excellent control to assist in deployment of his reserve.

q. The Pleiku South site was reported ready for activation 5 January 1968. A 45 channel microwave terminal has been constructed on this site. While construction actually began on 25 December 1967, when the initial shipment of equipment departed Nha Trang, a 96 foot AB-216/U communications tower and Jamsay was erected. The AN/TRC-29 radio equipment, and the AN/TCG-13 multiplexer equipment arrived on site on 2 January 1968. All equipment for this project was airlifted.

r. An Army Area troposcatter system, BBT12 was activated on Vung Ro Mountain on or about 2 January 1968. This 24 channel system will provide additional circuit links between Nha Trang and the Tuy Hoa-Phu Hiep areas.

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s. To provide dial trunks for the 4th Infantry Division, connecting them with Long Lines Facilities at Pleiku, BEMO5 was activated on 9 January 1968. Installation equipment from Nha Trang, radio equipment from Qui Nhon and Da Nang, tower equipment from Saigon was airlifted to Pleiku.

t. Communication improvements continued at Tuy Hoa Air Force Base. To prevent corrosion to equipment caused by sand, and dust, an air conditioned building has been constructed. Nine systems, which are comprised from two AN/TRC-29's, three AN/TCC-3's, seven AN/TRC-24's, seven AN/TCC-7's, and one AN/TCC-4, were installed in this building. The new shelter will reduce outages caused by equipment overheating.

8. LOGISTICS:

a. Self help construction projects continue to be the mainstay of the battalion's construction progress. Two 500 man mess halls, a main distribution frame room, and a building to house the Signal Center Platoon Headquarters have all been started or completed within the reporting period at the Camp John F. McDermott cantonment area.

b. Company B, 459th Signal Battalion (CA), deployed at Ninh Hoa, completed construction of a 200 man mess hall and began construction on three troop barracks.

9. AVIATION: None

10. ORGANIZATIONAL STRUCTURE: The existing structure of the Battalion and the location of its units are as follows:

- a. Headquarters and Headquarters Company, Nha Trang
- b. Company A - Nha Trang
- c. Company B - Ninh Hoa
- d. 228th Signal Company (RRVHF) - Hon Tre Island
- e. 261st Signal Company (SPT) - Phu Hiep
- f. 518th Signal Company (RRUHF) - Nha Trang

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SECTION II

Commander's Observations and Recommendations

Part I: Observations (Lessons Learned)

a. Personnel:

ENLISTED GRADE INSIGNIA

ITEM: NCO grade insignia partially obscured by rolled-up sleeves of uniforms.

DISCUSSION: The uniform regulation specifies that the sleeves of jungle fatigues be rolled above the elbow or worn long with cuffs buttoned. The normal manner in-country is to wear the uniform with sleeves rolled above the elbow obscuring portion of the chevrons.

OBSERVATION: A subdued metallic or non-metallic pin-on type collar grade insignia for NCO's would simplify recognition.

b. Operation

TRANSMITTER T-368 (C)

ITEM: A continuous rise of plate power when loading the transmitter.

DISCUSSION: It was difficult to lower the plate power while tuning Transmitter T-368 (C). In its place maintenance personnel installed a different transmitter, the same problem was encountered. Indications were that the antenna change-over relay resistor, or tube 3B28, was blown. A repairman checked the transmitter, and found the antenna connector, 40270, had a burned pin. The connector was subsequently replaced and the problem was solved.

OBSERVATION: Always thoroughly check the coaxial cabling leading from the transmitter to the antenna connectors.

TOWER LOADING

ITEM: Maximum number of eight foot diameter AS/554 antennas which can be placed on adjacent sides of a 66 foot AB/216 tower.

DISCUSSION: By using procedure outlined in AB/216 tower manual, TM 11-5079, the maximum number of solid eight foot diameter antennas which can be mounted on adjacent sides of the tower are two. These calculations are based on the wind resistance of a solid circular antenna; however, many antennas are not solid and the given figure of two can be altered. The AS/554 antenna is perforated steel and has a total area of approximately one half of an eight foot diameter solid circular antenna.

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From these considerations it would appear that four or five AS/554 antennas could be mounted on adjacent sides of the 66 foot AB/216 tower. The final factor is the exact wind resistance characteristics of the AS/554. Since this information was not available, it was decided to use the rough calculations for predicting tower capacity. Five AS/554 antennas were temporarily mounted on adjacent sides of the 66 foot AB/216 tower at Nha Trang during the installation of System BBMO1. Guy tension, anchor points, and tower sections were closely inspected to detect any tendencies toward failure. No failures were detected. Later the load was reduced to a total of four antennas when the BBMO1 terminal was moved to Camp McDermott.

OBSERVATION: For temporary installations, 66 foot AB/216 tower will support five AS/554 antennas on adjacent sides. However, this type installation was not tested under wind conditions which exceeded 40 knots.

SETTING LARGE POLES

ITEM: It is often a difficult and dangerous project to set poles over 50 feet in length in the sandy soil found in many areas of Vietnam.

DISCUSSION: It has been necessary at times to set large poles (in excess of 50 foot in length) in very sandy areas. To insure that the poles are firmly set, it has been determined that a firm base must be provided to compensate for the sandy soil.

OBSERVATION: To build a firmer foundation, deeper holes (10-12 feet) were dug and the poles imbedded in 55 gallon drums filled with cement. The pole is placed inside the drum and held in place while concrete is poured into the drum. Rocks are then packed around the drum and the hole filled. This method provides a firm base for pole construction.

FIELD EXPEDIENT ANCHOR

ITEM: The use of 2½ ton trucks as emergency anchor points for the AB/216/U communications tower.

DISCUSSION: During an emergency when the use of a field expedient anchor point was necessary to prevent the loss of an AB-216/U tower, the most effective method of emergency anchoring found to date has been the use of 2½ ton trucks. The vehicle is positioned directly behind the existing anchor point and perpendicular to the line of the guy wires. A "D" ring is connected to one of the shipping tiedowns located on the chassis side-rails. Guy wire winches are then transferred from the original anchor point to the "D" ring and tension adjusted. The possibility of dragging the vehicle is extremely slim.

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OBSERVATION: Using the above-outlined procedures, a 2½ ton truck will provide a stable and reliable emergency anchor.

AN/TRC-24 RECEIVER TUNING HEADS

ITEM: The plug (P-5) on AN/TRC-24 receiver tuning heads is a male type plug with pins, which should be the same size on all receiver tuning heads.

DISCUSSION: In putting in a "C" Band VHF shot, a previously checked receiver was used with an operational "C" Band receiver tuning head. No measured meter readings could be obtained with this combination. When a "D" Band tuning head was placed in the receiver, it operated properly. A test of a "B" Band tuning head also met with negative results.

OBSERVATION: Upon close observation it was found that most "B" Band and "C" Band tuning heads have smaller pins on Plug J-5 than pins on Plug J-5 of "D" Band tuning heads. When this is the case, the tuning head does not make proper contact when inserted in the receiver. The female Plug J-108 in the receiver or the Plug J-5 on the tuning head has to be shimmed to compensate for the difference in size.

VIBRATION OF WIRES

ITEM: On the 45KW Hollingsworth Generator, the constant movement of wire on metal caused by vibrations, strips the insulation from the wires causing them to "short."

DISCUSSION: A wire loom runs from the switch panel and passes over a corner of the stator cover. At this corner, the wire loom, due to constant vibration, has the insulation rubbed-off the wires. The loss of insulation causes the wires to short and weld together, placing the generator on deadline status. If a generator mechanic is not alert to search for this tentative problem area, it is quite difficult to detect this hazard since the wires are hidden from normal observation.

OBSERVATION: A section of rubber hose (three inches long) fitted securely over the wire loom at the abrasion point will eliminate the wire shorting problem.

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ELECTRICAL SWITCH BOXES

ITEM: Vibration of components in switch boxes used for power distribution systems.

DISCUSSION: It was discovered that over a period of time, the output and input connectors on electrical switch boxes tend to loosen due to vibration. The loose connections reduce the current carrying capacity, thus, increasing heat which can cause the wires and/or switch box connectors to burn.

OBSERVATION: Switch box connections must be tighten periodically. If possible, alternate power distribution systems should be set up, so that proper maintenance can be pulled on the primary system.

IMPEDANCE MISMATCH

ITEM: Mismatch of impedances between antenna and equipment due to defective coaxial cables and antenna systems.

DISCUSSION: In the past, this battalion has experienced the loss of video signal and noisy systems due to mismatch of impedance between the antenna and the AN/TRC-29 equipment. Defective cables and antenna systems are the most common cause of these problems. A defective coaxial cable was found which offered all the indications of system fading. By replacement of the cable between the duplexer output and input to the ground launcher, the system returned to normal.

OBSERVATION: The coaxial cable connectors for the CG-RG-14/U cable have a snap lock connector and should be seated properly on the receptacle plug. All exterior connectors should be taped with both rubber and plastic tape to retard leakage.

200KW GENERATOR

ITEM: Malfunction of 200KW Generator.

DISCUSSION: At various intervals the generator exhaust would emit black smoke, and the engine would lag temporarily, then return to normal. If part of the load were removed while the trouble was occurring, the generator would perform normally again. Upon examination by PA&E maintenance personnel it was discovered that the bearings in the turbochargers were worn excessively, and one of the grease seals was broken. It is believed that when a surge of power occurred, the fuel injectors would pump more fuel and some of this fuel would get into the turbocharger and therefore, be forced into the intake manifold causing a temporary malfunction. When the load was reduced, less fuel was required and the generators would run properly.

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OBSERVATION: Fuel being forced into the turbocharger of diesel generators because of broken seals, will cause temporary malfunctions.

FOUR WIRE TELETYPE CIRCUITS

ITEM: Troubleshooting of four wire teletype circuits.

DISCUSSION: Recently a subscriber reported that they were getting a loop back. The carrier operator would check it out and determined that all of the wiring on the carrier channel and ringer were correct. During the process of troubleshooting the carrier operator would reverse his wires, in an attempt to restore the circuit. Several times the circuit became operational when this was done. The cable pairs had not been inadvertently reversed at the carrier terminal and frame. Therefore it must be assumed that the subscriber had reversed his wires while pulling maintenance or changing equipment. The carrier operators have been instructed not to reverse their wires as a troubleshooting procedure in the future. If wires have been crossed somewhere, causing a loop back, it would have to be at the subscriber end, because the wires at the carrier channel frame are never touched. Therefore, they could not have been inadvertently reversed.

OBSERVATION: When a subscriber reports that he has a loop back, there is no point in reversing wires at the carrier terminal. Two wrongs do not make a right; the wires should be corrected at the subscriber terminal.

c. Training:

SPLICING CABLE

ITEM: A situation was encountered where it was necessary to splice two different size cables together.

DISCUSSION: It was required to connect a 400 pair cable into an existing terminal. This terminal was pre-wired and had a 600 pair stub. After the 400 pair were spliced, the remaining 200 pair were split into two 100 pair groups. Each group was put on opposite sides of the splice and meshed into the center of the splice.

OBSERVATION: A neat splice can be obtained when splicing two different size cables together.

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d. Intelligence; None.

e. Logistics.

JAMESWAY HEAT PROBLEMS

ITEM: Heat problems in Jamesway Equipment Shelters

DISCUSSION: The heavy OD colored matting used as a cover for these shelters causes heat buildup within the facility. Fans and air conditioners have been used to alleviate this problem with limited success. It was discovered that the use of interior paneling, painted a light color, alleviates the problem to a great degree. Masonite sheets are nailed between the shelter ribs so as to cover the complete interior of the Jamesway. After painting, it was discovered that the temperature dropped from 5 to 10 degrees.

OBSERVATION: Interior paneling of Jamesway equipment shelters to provide insulation will help alleviate intense heat.

POWER CABLE INSTALLATION

ITEM: Use of cable fasteners for installation of power cable.

DISCUSSION: During recent installation of aerial power cable, a method had to be devised to secure the cable to the glass insulators. Cable fasteners, which are a part of the AN/TRC-24 antenna kit were used. The loop was placed over the insulator and the clamp was fastened around the power cable. Copper wire was used to lock the cable fasteners against the side of the insulator.

OBSERVATION: If the proper type of clamps for installing aerial power cable are not available, cable fasteners which come with the AN/TRC-24 antenna kits can be used. These fasteners are expendable and can be requisitioned.

POWER SUPPLY COMPONENTS

ITEM: Failure rates of AN/TRC-29 Power supply components.

DISCUSSION: A majority of equipment problems noted by this battalion have involved power supply components. The electron tube "836" seems especially subject to failure. The most prominent contributory factors to this high failure rate are weather conditions and power sources. Heat within the power supplies due to atmospheric conditions have greatly increased failure of

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the vacuum tubes within the chassis. The use of tactical generators as power sources also shortens the life of the power supply. Fluctuating power causes variations within the unit and shortens the life of the vacuum tubes.

OBSERVATION: Stockage levels of power supply components, especially electron tube 836, are kept far above normal to meet the huge demand caused by the reduced life span of the vacuum tube.

AIR CLEANER ELEMENT

ITEM: While servicing the air cleaner on the M35A2, it often becomes damaged and requires replacement.

DISCUSSION: Improper cleaning of air cleaner element can cause damage to the engine. To strike the air cleaner element on its lip will damage the lip seal and result will be a dirt leak to the engine, further causing serious damage to an engine.

OBSERVATION: Use compressed air for cleaning, and hold the element vertically and pat the sides to clean the element.

f. Others.

SAFETY

ITEM: A possibility exists that the M-14 rifle can be accidentally fired while loading even though the safety is in the on position.

DISCUSSION: During the M-14 Familiarization period, an individual fired a round while locking his weapon. At the time the round was fired, the weapon was pointed down range and the safety was on. An inspection of the weapon indicated no evidence of any foreign matter between the chambered round and the firing pin. The weapon was tested and inspected with no further recurrence of the above action.

OBSERVATION: In view of the above, it was assumed that the possibility exists that the M-14 rifle can be fired with the safety on while locking the rifle. Whether or not this incident is peculiar cannot be determined.

MOSQUITO BREEDING PREVENTION

ITEM: Water in fire barrels becomes stagnant producing a breeding ground for mosquitoes.

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DISCUSSION: It was discovered that fire barrels produced a breeding ground for mosquitoes, and that the barrels were often used as trash cans regardless of labels and wooden covers.

OBSERVATION: The problem was solved by placing a fine mesh screen over the top of the fire barrels, and tying it down with string. The screen can be readily removed in case of fire, and it prevents insects and trash from being introduced into the barrel.

GREASE SEAL LEAKAGE

ITEM: Spinning of wheels causes grease seals on 2½ ton trucks to leak.

DISCUSSION: When vehicles are used on muddy roads, road traction is lost which normally results in spinning of the drive wheels. An inexperienced driver tends to excessively spin his wheels which places an over-burden on the axle - causing the axle housing to overheat. The intense heat causes expansion which results in oil leaks through the gasket seals.

OBSERVATION: When operating 2½ ton trucks on muddy roads, grease seals on rear axle hubs should be frequently checked.

AIR TANKS

ITEM: Problems created by operator's failure to drain air tanks on the M35A2, 2½ ton truck, on a daily basis.

DISCUSSION: Vehicle operators were failing to drain air tanks on a daily basis, subsequently allowing water to collect in the tanks. This water accumulation then transfers to the air lines and hydrovac, causing an increase in hydrovac failures and master cylinder problems. These failures created an unnecessary maintenance problem which would never have occurred had the air tanks been drained daily.

OBSERVATION: Since increased emphasis has been placed on the daily draining of air tanks on 2½ ton, M35A2, hydrovac and master cylinder failures have decreased.

OIL FILTER M35A2

ITEM: Tightening of the oil filter cover on the M35A2 truck.

DISCUSSION: By not using a torque wrench when securing the oil filter cover, an uncontrolled amount of pressure can be applied which causes leaks through damage to gaskets and/or the cover.

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OBSERVATION: When tightening the cover nut on the oil filter of the M35A2 truck, use a torque wrench to avoid damage to the cover or gasket.

REPLACEMENT OF PARTS

ITEM: Guides to aid in the alignment of gaskets and parts.

DISCUSSION: When replacing parts and gaskets on a vehicle, one recurring problem always arises and increases the time required to accomplish repairs. This problem is the alignment of bolt holes with the corresponding holes in the gasket and part. To reduce this problem, bolts of corresponding size to the holes were taken, their heads removed and a screw driver slot was cut in their place. These modified bolts were screwed into the bolt holes and used as guides for aligning the replaced parts and gaskets. Once the part and gasket is in place, the guides are removed and replaced immediately with the proper bolt.

OBSERVATION: It has been found by creating sets of guides in varying sizes, the organization maintenance shop has been able to reduce its work time required to replace parts and gaskets.

FAILURE OF TRANSMITTER

ITEM: Failure of transmitter AFC intermediate frequency chasis in the AN/TRC-29 transmitter.

DISCUSSION: Recently this unit experienced failure of the IF strips on transmitter AFC's on both standby and operating sets at Phu Cat. As a result, the monitoring capability was lost on the transmit side giving the appearance of a system outage. However, the IF chasis has no effect on actual operation of the transmitter. The output signal cannot be monitored and the set cannot be aligned as meter readings are not accurate. In this instance the problem was overcome by establishing contact with the distant terminal. While the distant terminal monitored its receive frame, the operator at Phu Cat peeked up his transmitter and received instructions on adjustments from the operator at Qui Nhon who was monitoring.

OBSERVATION: The monitoring circuits on the AN/TRC-29 can be disabled without rendering the equipment non-operational so long as close contact is maintained between the system terminals.

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10 March 1968


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1968 from Headquarters, 459th Signal Battalion (CA)(RCS CSFOR-65)

SECTION II

Commander's Observation and Recommendations

Part 2: Recommendations (Lessons Learned)

- a. Personnel: None.
- b. Operations: None
- c. Training and Organization: None.
- d. Intelligence: None.
- e. Logistics: None.
- f. Other: None.


ELMER H. GRAHAM
LTC, SigC
Commanding

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SCCVNG-OPT (10 Mar 68) 1st Ind
SUBJECT: Operational Report for the Quarterly Period Ending 31 January
1968 from Headquarters, 459th Signal Battalion (CA) (RCS CSFOR 68)

DA HEADQUARTERS, 21ST SIGNAL GROUP, APO 96240 20 March 1968

THRU: Commanding General, 1st Signal Brigade (USASTRATCOM) ATTN: SCCVOP
APO 96384

Commanding General, USARV, ATTN: AVHGC-DH, APO 96375

Commander in Chief, USARPAC, ATTN: GPDP-OT, APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the
Army (ACSFOR-DA), Washington, D.C. 20310

1. Transmitted herewith is one copy of , Headquarters, 459th
Signal Battalion report, Subject: same as above.
2. Concur in the commanders observations and recommendations with
the following comments and/or exceptions.

a. Reference SECTION I, para 8a: This unit has successfully
met target dates set for completion of self-help construction projects
for the cantonment area. Buildings are awaiting final installation of
electrical wiring and mess equipment by Post Engineers.


b. Reference SECTION II, PART I, para a:

Item: NCO grade insignia partially obscured by rolled up sleeves
of uniform. USARV message AVHGA-SM34458, DTG 230740Z January 68 auth-
orizes the wear of subdued metal insignia in lieu of the sew-on type.

c. Reference SECTION II, PART I, para b:

Item: Malfunction of 200 KW Generator. It is unlikely that fuel
from the fuel injectors could get into the turbocharger. It is possible
for lubricating oil from the turbocharger's lubricating system to be
drawn in through the broken seal and then forced into the manifold
causing excessive smoke in the exhaust. In most instances these symptoms
are caused by dirty cleaners which prohibits an increase in the rate of
air flow required when the load is increased. Air cleaners should be
cleaned as often as necessary, depending on operating conditions, to
permit proper air flow for complete fuel combustion under any load.

3. UIC is WCEKAA.
4. This report is considered adequate.


CHARLES H. BURR JR.
COL, SigC
Commanding

SCCVOP (10 Mar 68)

2d Ind

SUBJECT: Operational Report for Quarterly Period Ending 31 January 1968,
from Headquarters, 459th Signal Battalion (CA) (RCS CEFOR-65) (NCEMAA)

DA, HQ, 1st Sig Bde (USASSTRATCOM) APO SF 96384

TO: ~~1~~Commanding General, United States Army Vietnam, ATTN: AVIOC-DH,
APO 96375

Commanding General, United States Army Strategic Communications
Command, ATTN: SCCOP, Fort Huachuca, Arizona 85613

1. Subject report is forwarded for your information.
2. Concur in the Commander's observations as stated in the basic correspondence and 1st Indorsement. The following additional comments are provided with respect to Section 2, Part I (Observations).
 - a. Item: Setting large poles, page 9. The use of cement filled drums to provide a foundation in sandy or marsh areas has been used in Vietnam with great success.
 - b. Item: Splicing cable, page 12. The described technique should be considered as a field expedient method of cable restoral that can be successfully used in the event of emergency.
 - c. Item: Power Supply components, page 13. Unit has been instructed to submit an Equipment Improvement Report in regard to the excessive failure rate of Electron Tube "836".
 - d. Item: Mosquito Breeding Prevention, page 14. It is recommended that 1/4 pint of engine oil be added to the water drum to eliminate a breeding ground for mosquitoes.
 - e. Item: Safety, page 14. This reported instance of an accidental firing of the M-14 rifle while in the process of locking is the only such instance to be reported to this Headquarters. The most probable cause of this incident was a defective safety mechanism in the particular weapon - not a basic design fault.

FOR THE COMMANDER:

Thomas D. Llewellyn, Jr.
THOMAS D. LLEWELLYN, JR.
Colonel, GS
Chief of Staff

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AVHGC-DST (10 Mar 68) 3d Ind CPT Arnold/ms/LBN 4485
SUBJECT: Operational Report for the Quarterly Period Ending 31 January 1968
from Headquarters, 459th Signal Battalion (CA) (RCS CSFOR-65)

HEADQUARTERS, US ARMY VIETNAM, APO San Francisco 96375 1 3 APR 1968


TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1968 from Headquarters, 459th Signal Battalion as indorsed.

2. Concur with report as indorsed. Report is considered adequate.

3. A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:


CHARLES A. BYRD
Major, AGC
Assistant Adjutant General

Copies furnished:
HQ 459th Sig BN
HQ 1st Sig Bde (ISASTRATCOM)

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GPOP-DT (10 Mar 68) 4th Ind

SUBJECT: Operational Report of HQ, 459th Sig Bn for Period Ending
31 January 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 29 APR 1968

TO: Assistant Chief of Staff for Force Development, Department of the
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorse-
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



C.L. SHORTT
CPT, AGC
Asst AG

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13. ABSTRACT